Building a Windowbox Micro-Bog for Urban Environments

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Keywords: cultivation: bog-garden.

For some time, I have wanted to build a mini-bog in my back yard. Unfortunately, I do not have a back yard and I am not likely to for at least a couple of years. In this article, I will describe the construction of, not a mini-bog, but a micro-bog. A micro-bog is a very small bog suitable for placement on a window ledge, a fire escape, or just about anywhere else with some sun and air. I will describe construction materials and their sources in addition to the process of building the micro-bog.

Materials Needed

The materials necessary to construct a micro-bog include "planters" (i.e. large growing containers) and soil.

My window ledges are 84 cm (33 inches) by 30 cm (12inches), so I got planters that measure 76 cm (30 inches) wide by 25 cm (10 inches) deep by 25 cm (10 inches) tall. I would have preferred something taller, but I could not find anything that would fit on my window ledge. Planters should be at least 25 cm (10 inches) deep if you plan to grow *Sarracenia*, but they can be as little as 15 cm (6 inches) deep if you are only planning on growing the other carnivorous plants I mention in this article.

My planters were US$9.97 each at a general store in Brooklyn, New York; you will probably have to find another source unless you are my neighbor. Each planter has two drainholes in the bottom with removable plugs. Two planters (one nested in the other) are required to make a micro-bog. I use two planters nested like this to allow for drainage from the primary planter and to provide a dead air space layer around the micro-bog's soil for insulation in cold weather. I hope that allowing the primary planter to drain through the bottom will minimize mineral buildup in the micro-bog.

A piece of wire mesh or chicken wire large enough to cover the planter is a good idea if there are squirrels or pigeons in your area.

The micro-bog would probably be fine with a standard carnivorous plant soil mix of 50/50 *Sphagnum* peat moss and sand, but I use a more complicated approach that involves two different layers of planting mix. The base soil mix consists of 2 parts sand to 2 parts peat to 1 part Hartz "pH 5" brand cat litter. The cat litter I use is, as you may have guessed, made by Hartz, and has a pH of 5. This particular brand of cat litter is pure Georgia clay; I add it to the mix because I am unable to get pure silica sand, and the low pH of the clay should help to ensure that the final mix is acidic enough for the plants. Growers unable to purchase this exact brand should shop carefully for a replacement, or use silica sand instead. Over top of the base soil mix I place a layer of chopped long-fiber sphagnum, followed by a thin layer of 50/50 peat/sand.

It costs less than US$15 to buy enough peat moss, cat litter, and long-fiber *Sphagnum* for a micro-bog. Buying sand is a source of irritation for me—I cannot find pure silica (except by the truckload) and my local Home Depot has stopped carrying the Quikrete Play Sand that I used to use. Ultimately, I got my sand from a huge pile that appeared at a construction site around the corner a couple of months ago. While I was there, I picked up a couple of small pieces of granite with which to block the drainage

holes in the planter. I mention this not in order to send hordes of carnivorous plant enthusiasts out to raid construction sites for soil, but rather to illustrate the fact that it is often possible to find materials in unorthodox places when you can not find them by regular means. (*It is, of course, best to be law-abiding at all times—ed.*)

In my set-up, the minimum soil requirements are a bit more than 11 liters (3 gallons) of sand, 11 liters (3 gallons) of peat moss, 6 liters (1.5 gallons) of long-fiber sphagnum, and 2 small pieces of granite. Adjust accordingly if you use a different size planter or if you want to experiment with the cat litter like I did. The ratios of cat hair and cigarette ash I add to my soil are a closely-held secret.

Plants for the Micro-Bog

I want to start the plants in my micro-bog from seed instead of from live plants, so in this section I will tell you which species I chose for my Eastern US micro-bog. There are a couple of requirements for the seed. The plants should grow in a similar climate to yours, and should not get larger than the micro-bog will support. Here is what I plant and why.

Drosera intermedia—I have seed from my existing plants, and it grows like a weed. Along with the other *Drosera*, this provides instant gratification while I am waiting for the *Sarracenia* and the *Dionaea*.

D. anglica—I got this seed from the ICPS seedbank. I have not grown this species before, and it seemed a logical choice for an Eastern US bog.

D. rotundifolia—Also from the seedbank, this was the first carnivorous plant I ever killed. I wanted another chance, and the reasons I am growing the other *Drosera* apply here as well.

D. filiformis var. *tracyi*—More seedbank seed. This should give me some tall plants in the first year.

Dionaea muscipula—Also seedbank seed, if you have to ask why I am growing *D. muscipula* you should instead be asking why you joined the ICPS!

Sarracenia minor—Seedbank again. This species of *Sarracenia* will provide a tall plant to give some variety to the bog, but it does not require as much root depth as, say, *S. alata* or *S. flava*. If I was not already growing *S. oreophila* and *S. leucophylla*, I might have opted for one of the *S. rubra* subspecies, but I already have "normal" shaped pitchers and I do not have the unique shape of *S. minor*.

S. purpurea subsp. *venosa*—I got this seed from Niagara Exotics (niagaraexotics.com). I went with *S. purpurea* subsp. *venosa* over *S. purpurea* subsp. *purpurea* because, although *S. purpurea* subsp. *purpurea* is native to my local climate, *S. purpurea* subsp. *venosa* is a better fit with the other plants in the bog.

Putting It Together

Soak the long-fiber sphagnum in pure water for a couple of days before you start, or in very hot pure water for a couple of hours if you are in a hurry. Pull the drainage plugs out of the planter that will be on top, then stack it on top of the other planter. Place the small pieces of granite over the open holes in the upper planter to prevent the soil from falling through. Think about where the planter is going to end up and where it is now: the finished micro-bog will weigh something like 18 kg (40 pounds). Wash the sand—do it very, very thoroughly if you are using low-grade sand like I am. Put the washed sand and peat (and the cat litter if you are using it) into a bucket or other mixing container. I tried to put the soil ingredients in the planter and mix them there; it was a bad idea. Mix the soil together with lots of pure water and, assuming a 25 cm (10 inch) deep planter, dump it into the planter to a depth of roughly 20 cm (8 inches), making "hills" and "valleys" so most of the soil ranges from 19-22 cm (7.5-8.5 inches) deep. Take a large knife and cut the long-fiber sphagnum into cubes roughly 2.5 cm (1 inch) on a side, then put the sphagnum over the soil in an even layer. Use some of the remaining

peat/sand mix to cover the sphagnum chunks with about 6 mm (0.25 inches). The idea is more to fill in the gaps in the sphagnum than to add an actual layer of soil. At this point, it is time to sow the seeds. You will want a bit more peat/sand to cover them and it should be very dry, so if the only peat/sand you have is wet you may want to dry it out.

I sowed the larger seeds by dumping the packet out onto a piece of blank white paper and gently shaking the paper over the planter so that the seeds fell off one or two at a time, moving the paper from one end to the other slowly so that the seeds were evenly distributed. You can mix the seeds with fine sand and spread the resulting mixture over the surface of the soil, or if the seeds are still on the flower stalks you can simply cut the stalks off and twirl the seed pods between thumb and forefinger while holding them above the planter. The *Drosera* seed from the seedbank seemed a bit trickier to deal with at first: the tiny seeds were clinging to the waxed paper due to static electricity. As it turned out, the static worked to my advantage: I held the waxed paper seed-side down and flicked it hard, then moved it over a few inches and flicked again. The static was holding the seed to the waxed paper strongly enough that only a few seeds fell off each time I flicked it.

Once the seed was sown, I covered the planter with a very thin layer of dried peat/sand. According to the literature, most of the seed I planted should not be covered, but I covered it in order to keep it from blowing away over the winter. After that, I attached the wire mesh to the planter and wrestled it out onto the fire escape. The final step for me was drenching the soil with 3.8 liters (1 gallon) of Trichoderma water, but that is a subject for another time.

Spring 2002 update: In May, following the creation of the micro-bog, I thought that it was a complete failure. But two weeks later showed me that the only problem was my impatience. Staring intently at the soil surface revealed that there were tiny *Drosera*, minuscule *Sarracenia*, and at least one little Venus Flytrap beginning to grow.

I will make this article and the updates available on my web site at www.carnivorousplants.nyc.ny.us.

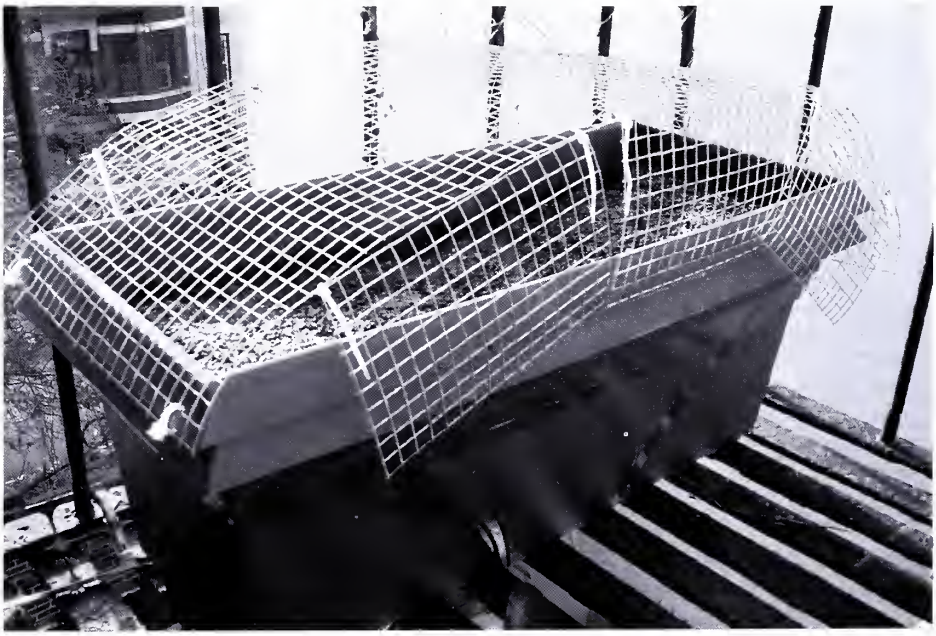

Figure 1: The newly constructed micro-bog.